

**REMARKS**

Claims 11-14 and 17-20 are pending in this application. By this Amendment, claims 11, 12, and 17-20 are amended and claims 15, 16, and 21 are canceled. This amendment is supported by the specification as published at least at paragraph [0090]. No new matter is added.

**I. Objection to Claims**

The Office Action objects to claims 11, 12, and 20 as allegedly being informal.

As suggested by the Office Action, on page 2, claims 11 and 20 are amended to recite the word "the" before referring to the aforementioned holding members; and claim 12 is amended to recite the word "the" before referring to the aforementioned fixed end portions.

Accordingly, Applicants respectfully request withdrawal of the objections to claims 11, 12, and 20.

**II. Rejection of Claims Under 35 U.S.C. §112**

The Office Action rejects claims 11-21 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. In particular, the Office Action asserts that claims 11 and 20 are missing necessary structural connections for each electrode and reciting the limitation "the opposite side end portions (fixed end portions)" that has insufficient antecedent basis.

Applicants respectfully traverse this rejection.

Claims 11 and 20 are amended to recite "each of the electrodes having both a fixed end portion and a free end portion" for further clarity, as suggested by the Office Action, on page 3. Further, independent claims 11 and 20 are amended to replace the limitation "the opposite side end portions (fixed end portions)" with "the fixed end portions," that has sufficient antecedent basis.

Accordingly, Applicants respectfully request withdrawal of the rejection of claims 11-21 under 35 U.S.C. §112.

**III. Rejection of Claims Under 35 U.S.C. §102 and §103**

The Office Action rejects claims 11, 15, 17, and 20 under 35 U.S.C. §102(b) as allegedly being anticipated by Ruan (U.S. Patent No. 6,146,599); claims 16 and 18 under 35 U.S.C. §103(a) over Ruan in view of Nelson 16 (U.S. Application Publication No. 2002/0131916); claim 19 under 35 U.S.C. §103(a) over Ruan in view of Nelson 63 (U.S. Application Publication No. 2002/0076363); and claim 21 under 35 U.S.C. §103(a) over Ruan in view of Shinichi (JP Application Publication No. 2002-256853) and further in view of Miyao (JP Application Publication No. 2002-256851) and Fujii (U.S. Patent No. 6,596,243). Applicants respectfully traverse these rejections.

Independent claim 11 is amended to incorporate the subject matter of claims 15 and 16. Thus, the rejection of claim 11 will be addressed in view of the rejection of claims 15 and 16. Specifically, Ruan and Nelson 16, either alone or combined, do not disclose or render obvious at least a connection terminal for electrical connection to the fixed end portions of the electrodes, wherein a main component of the connection terminal is metal having a thermal expansion coefficient of  $7 \times 10^{-6}$  (1/K) at 0 to 600°C or less, as recited in claim 11.

The Office Action, on page 8, admits that Ruan fails to disclose the above-noted feature, but nevertheless asserts that Nelson 16 discloses the feature at paragraph [0065]. However, Nelson 16 does not disclose a main component of the connection terminal having a thermal expansion coefficient of  $7 \times 10^{-6}$  (1/K) at 0 to 600°C or less. Nelson 16 at paragraph [0065] only discloses exemplary materials suitable for forming the base conductor including a low-expansion iron-nickel alloy. Thus, Nelson 16 does not cure the deficiency admitted of Ruan.

Therefore, Applicants respectfully submit that claim 11 is allowable. Claims 12-14 and 17-19 depend from claim 11, and are therefore also allowable by virtue of their

dependence, as well as for the features that they recite. Accordingly, Applicants respectfully request withdrawal of the rejections of claims 11 and 17 under 35 U.S.C. §102(b), claims 18 and 19 under 35 U.S.C. §103(a), and withdrawal of the objection to claims 12-14 as being dependent upon a rejected base claim 11.

Further, regarding claim 20, Ruan does not disclose or suggest at least a honeycomb structure having a plurality of cells separated by partition walls and disposed on upstream side of the plasma generating electrode in the passage of a case body, the honeycomb structure having a cell density of 15 to 186 cells/cm<sup>2</sup>, as recited in claim 20.


The honeycomb structure having the cell density recited in claim 20 functions advantageously. The recited range of the cell density can prevent clogging of the cell while at the same time being effective in removing a foreign substance (see paragraph [0090] of the present application). Ruan does not disclose or render obvious this feature or its advantage. Thus, claim 20 is allowable. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 20 under 35 U.S.C. §102(b).

#### **IV. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 11-14 and 17-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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